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#4

PTO/SB/64 (10-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
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<b>PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(b)</b>		Docket Number (Optional)
<p>First named inventor: <i>Benjamin F. Brugh</i></p> <p>Application No.: <i>09/398,276</i> Group Art Unit: <i>3678</i></p> <p>Filed: <i>9/20/99</i> Examiner: <i>Thad Mayo</i></p> <p>Title: <i>Subsea Pipeline Blockage Remediation Method</i></p> <p>Attention: Office of Petitions Assistant Commissioner for Patents Box DAC Washington, D.C. 20231</p> <p>NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (703) 305-9282.</p> <p>The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus an extensions of time actually obtained.</p> <p>APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION</p> <p>NOTE: A grantable petition requires the following items:</p> <ul style="list-style-type: none"><li>(1) Petition fee;</li><li>(2) Reply and/or issue fee;</li><li>(3) Terminal disclaimer with disclaimer fee --required for all utility and plant applications filed before June 8, 1995; and for all design applications; and</li><li>(4) Statement that the entire delay was unintentional.</li></ul> <p>1. Petition fee <input checked="" type="checkbox"/> Small entity-fee \$ <u>55</u> (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.  <input type="checkbox"/> Other than small entity - fee \$ _____ (37 CFR 1.17(m))</p> <p>2. Reply and/or fee</p> <p>A. The reply and/or fee to the above-noted Office action in the form of <u>NORMAL FIGURE - NO FEES REQD</u> (identify type of reply): <input type="checkbox"/> has been filed previously on _____. <input type="checkbox"/> is enclosed herewith.</p> <p>B. The issue fee of \$ _____. <input type="checkbox"/> has been paid previously on _____. <input type="checkbox"/> is enclosed herewith.</p>		

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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## 3. Terminal disclaimer with disclaimer fee

- Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.
- A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ \_\_\_\_\_ for a small entity or \$ \_\_\_\_\_ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

## 4. STATEMENT: The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE. The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c)(III)(C) and (D))].

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

7-20-01

Date

Telephone  
Number: (281) 487-6042

Signature

Benaron F. BAUGH

Typed or printed name

14626 Oak Jones

Address

Houston Tx 77079Enclosures:  Fee Payment

- Reply
- Terminal Disclaimer Form
- Additional sheets containing statements establishing unintentional delay
- Other: \_\_\_\_\_

## CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Box DAC, Washington, D.C. 20231.
- transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) 308-6916.

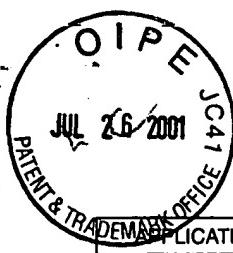
7-27-01

Date

Signature

Benaron F. BAUGH

Type or printed name of person signing certificate



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/398,276	09/20/99	BAUGH	

PM82/0702

BENTON F BAUGH  
14626 OAK BEND  
HOUSTON TX 77079-6441

MAYC, T EXAMINER

ABT UNIT 3673 PAPER NUMBER

3  
07/02/01  
DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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JUL 26 2001

## Notice of Abandonment

Application No.  
09/398,276

Applicant(s)

BAUGH, Benton F.

Examiner

Tara L. Mayo

Art Unit

3673



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

This application is abandoned in view of:

1.  Applicant's failure to timely file a proper reply to the Office letter mailed on 6 Dec 2000.  
(a)  A reply was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.  
(b)  A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113(a) to the final rejection.  
-- (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).  
(c)  No response has been received.
2.  Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).  
(a)  The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance.  
(b)  The submitted issue fee of \$ \_\_\_\_\_ is insufficient. A balance of \$ \_\_\_\_\_ is due.  
The issue fee required by 37 CFR 1.18 is \$ \_\_\_\_\_. The publication fee, if required by 37 CFR 1.18(d) is \$ \_\_\_\_\_.  
(c)  The issue fee and publication fee, if applicable, has not been received.
3.  Applicant's failure to timely file new formal drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).  
(a)  Proposed new formal drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.  
(b)  The proposed new formal drawings filed on \_\_\_\_\_ are not acceptable and the period for reply has expired.  
(c)  No proposed new formal drawings have been received.
4.  The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5.  The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6.  The decision by the Board of Patent Appeals and Interferences rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7.  The reason(s) below:

Attachment: PTO 413 Interview Summary

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DAVID BAGNELL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

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# Attachment for PTO-948 (Rev. 03/01, or earlier)

6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

## INFORMATION ON HOW TO EFFECT DRAWING CHANGES

### 1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

### 2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

#### Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

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Please type a plus sign (+) Inside this box →

PTO/SB/21 (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	09/398,276
		Filing Date	02/20/99
		First Named Inventor	Benton F. Baugh
		Group Art Unit	3673
		Examiner Name	MAYO, T
Total Number of Pages in This Submission		Attorney Docket Number	-

### ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Assignment Papers (for an Application)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment / Reply	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		
Remarks		

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### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Benton F. Baugh
Signature	
Date	7-15-01

### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date:

3-15-01

Typed or printed name	Benton F. Baugh		
Signature		Date	3-15-01

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March 15, 2001

INVENTOR: Benton F. Baugh, Ph.D., P.E.  
FOR: SUBSEA PIPELINE BLOCKAGE REMEDIATION METHOD  
SERIAL NO.:09/398,276  
FILED: 09/20/99  
EXAMINER: TARA L. MAYO

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Per the items in Paper #2:

1. O.K.

2-5 Claims objections as related in numbers 1 thru 5 have been corrected.

7. Claims 7 thru 9 are distinguished from Jee by the addition of the restriction that the heating means be located subsea.

Claims 13 thru 16 are distinguished from Jee by the requirement that a remotely operated vehicle place the circulation chamber adjacent to the pipeline.

Claims 20-25 are distinguished from Jee in that the energy is converted into heat at a seawater location, whereas Jee is simply using surface platform heat.

Claims 29-32 are distinguished from Jee in that the circulation chamber is placed adjacent to the pipeline whereas Jee's circulation chamber is itself a pipeline which surrounds the smaller pipelines.

Page 5, first paragraph – I agree

Page 5, second paragraph – I agree

Page 5, third paragraph – I would question whether you would say he uses an intermediate fluid, it is the same fluid circulated around the end of the tube.

Page 5, fourth paragraph – he places the pipeline within the chamber rather than the chamber adjacent to the pipeline, he has no means to heat a portion of the pipeline, but rather must heat the whole pipeline.

Page 6, paragraph 1 – I agree

Page 6 paragraph 2 – It may be obvious to use electric heat on the surface of a platform, but to do it in a remote deepwater location is probably not obvious.

Page 6, paragraph 3 – Using a pressure reducing means on an ROV to heat a subsea pipeline is probably not obvious.

Page 6, paragraph 4 – I have been around this problem for many years and the idea of using divers or ROVs to place a chamber to locally generate heat to remove deepwater hydrates has been demonstrated as non-obvious by substantial industry studies which have not thought of the idea. The thought that it simply replaces divers is not correct, there has never been a suggestion to use divers for this task to the best of my knowledge.

Page 6, paragraph 5 – Jee's method requires that the pipeline have the outer pipeline installed when the pipeline if laid. His method is completely ineffective if there is a subsea blockage and his outer pipeline was not installed before. The idea that we can move down into the seafloor silt and place a chamber next to an existing pipeline is substantially different than the capability of Jee's concept.

8. I agree that the use of chemical heating alone is not unique, but would appear valid as a dependent claim to a valid independent claim.

9. The changes have been made.

10. Claims 11 and 12 are dependent upon a claim with the additional restriction of the heat being generated subsea.

Claims 18 and 19 are dependent on a claim requiring installation of the circulation chamber by a remotely operated vehicle.

Claims 27 and 28 are dependent on a claim which requires that the heat is generated at a subsea location adjacent to the pipeline.

Claims 33 thru 38 are dependent on a claim which requires that the circulating chamber be placed adjacent to a buried pipeline. To emphasize the difference with Jee's concept, I have added the further restriction that the circulation chamber be moved along said pipeline.

I have included new copies of drawings 4, 5, 7, 8, and 13.

Regards,



Benton F. Baugh, Ph.D., P.E.

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CLAIMS

1. A [The] method of removing blockages of hydrates[,] or paraffins[, or the such like] from the inside of a subsea pipeline by the steps of  
    landing a remotely operated vehicle on said subsea pipeline,  
    engaging said subsea pipeline with traction means which are powered to control  
    the movement of said remotely operated vehicle along said pipeline,  
    sealingly engaging [engage] the outer surface of said subsea pipeline,  
    flowing seawater over a portion of the outer surface of said subsea pipeline,  
    heating the seawater which is flowing over the outer surface of said subsea  
    pipeline to a temperature higher than the ambient temperature surrounding said  
    subsea pipeline, and  
        after said seawater is circulated over said portion of the outer surface of  
        said subsea pipeline, recirculating said seawater back into [the] circulating pumps,  
        past the means of heating said seawater again, and over the portion of the outer  
        surface of said pipeline again,  
        such that said hydrates[,] or paraffins [or the such like] will melt and form liquids  
        and/or gases.
2. The method as claimed in claim 1, whereby the step [method] of  
    heating said seawater includes [is by] using an electrical resistance heater.
3. The method as claimed in claim 1, whereby the step [method] of  
    heating said seawater includes [is by] providing a differential pressure across a  
    pressure reducing means.

4. The method as claimed in claim 1, whereby the step [method] of heating said seawater includes [is by using] mixing of chemicals which produce heat upon mixture.

5. The method as claimed in claim 1, whereby said traction means are rollers which are curved on the outer surface to partially conform the outer surface of said subsea pipeline.

6. The method as claimed in claim 1, whereby the [means to sealingly engage the] outer surface of said subsea pipeline is engaged by [are] resilient flappers.

7. A [The] method of removing hydrates[,] or paraffins [or the such like] from the inside of a subsea pipeline by repeatedly circulating seawater alternately over a portion of the outer surface of said pipeline and over heating means to cause the hydrates[,] or paraffins[, or the such like] to melt into liquids and/or gases within said subsea pipeline.

8. The invention of claim 7 wherein said heating means is electric heating. 9.

9. The invention of claim 7 wherein said heating means is [flowing said fluid across] a pressure reducing means.

10. The invention of claim 7 wherein said heating means is chemical [ by mixing of chemicals].

11. The invention of claim 7 further comprising the step of moving a circulation chamber along the subsea pipeline while circulating said seawater. [wherein a circulation chamber is moved along said subsea pipeline while circulating said seawater on said subsea pipeline.]

12. The invention of claim 11 wherein resilient seals are provided between said circulation chamber and said subsea pipeline to separate said heated seawater within said circulation chamber from the seawater outside said circulation chamber.

13. A [The] method of removing hydrates[,] or paraffins [or the such like] from a subsea pipeline by

having a remote vehicle place a circulation chamber adjacent to said pipeline said, circulation chamber having an open side to said pipeline,

repeatedly circulating seawater out of said circulation chamber, through heating means, back into said circulation chamber, and across a portion of said pipeline,

such that heated seawater will be circulated across said portion of said pipeline to warm said pipeline and heat added to the seawater not transferred to said portion of said pipeline will increase the inlet seawater temperature to the heating means.

14. The invention of claim 13 wherein said hydrates[,] or paraffins[, or the such like] are melted into liquids or gases to eliminate a blockage.

15. The invention of claim 13 wherein said heating means is electric heating.

16. The invention of claim 13 wherein said heating means is [a flowing said seawater across] a pressure reducing means.

17. The invention of claim 13 wherein said heating means is chemical [mixing of chemicals].

18. The invention of claim 13 wherein a circulation chamber is moved along said subsea pipeline while circulating said heated fluid on said subsea pipeline.

19. The invention of claim 18 wherein resilient seals are provided between said circulation chamber and said pipeline to separate said heated fluid within said circulation chamber from the seawater outside said circulation chamber.
20. A [The] method of removing a blockage from a subsea pipeline comprising converting energy into heat in seawater [an intermediate fluid] below sea level and adjacent to said subsea pipeline.
21. The invention of claim 20 wherein said blockage is hydrates[,] or paraffins[, or the such like].
22. The invention of claim 21 wherein said hydrates[,] or paraffins[, or the such like] are melted into liquids or gases to eliminate the blockage.
23. (ABANDON) The invention of claim 20 wherein said intermediate fluid is seawater.
24. The invention of claim 20 wherein said heat is generated by electric heating.
25. The invention of claim 20 wherein said heat is generated by a flowing said fluid across a pressure reducing means.
26. The invention of claim 20 wherein said heat is generated by [mixing of] chemicals.
27. The invention of claim 20 wherein a circulation chamber is moved along said subsea pipeline while circulating said heated fluid on said subsea pipeline.
28. The invention of claim 27 [28] wherein resilient seals are provided between said circulation chamber and said pipeline to separate said heated

fluid within said circulation chamber from the seawater outside said circulation chamber.

29. The method of removing a blockage from a buried subsea pipeline comprising [of] placing a circulation chamber adjacent to said buried subsea pipeline and circulating a heated fluid on a portion of the surface of said buried subsea pipeline, and further comprising the step of moving said circulation chamber along said buried subsea pipeline while circulating said heated fluid.

30. The invention of claim 29 [30] wherein said blockage is hydrates[,] or paraffins], or the such like].

31. The invention of claim 30 [31] wherein said hydrates[,] or paraffins [or the such like] are melted into liquids or gases to eliminate the blockage.

32. The invention of claim 29 [30] wherein said fluid is seawater.

33. The invention of claim 29 [30] wherein heat is generated near the seafloor to heat said fluid.

34. The invention of claim 33 [34] wherein said heat is generated by electric heating.

35. The invention of claim 33 [34] wherein said heat is generated by [a] flowing said fluid across a pressure reducing means.

36. The invention of claim 33 [34] wherein said heat is generated by [mixing of] chemicals.

37. The invention of claim 29 [30] wherein said circulation chamber is moved along said buried subsea pipeline while circulating said heated fluid on said subsea pipeline.

38. The invention of claim 29 [30] wherein resilient seals are provided between said circulation chamber and said pipeline to separate said heated fluid within said circulation chamber from the seawater outside said circulation chamber.